

WHAT IS CLAIMED IS:

- 1           1.       A method of de-blurring a segment of an image, the method  
2 comprising:  
3           selecting the segment;  
4           identifying pixels of interest near a boundary of the segment; and  
5           calculating the blur contributions for the pixels.
- 1           2.       The method of claim 1 further comprising:  
2           subtracting the blur contributions from color vectors of the pixels to remove  
3 blurring from the segment.
- 1           3.       The method of claim 2, wherein calculating the blur contributions  
2 comprises:  
3           determining a first color vector relating to the segment;  
4           determining a second color vector relating to at least one adjacent segment in  
5 proximity to the pixels; and  
6           determining a third color vector relating to the pixels.
- 1           4.       The method of claim 2, wherein the blur contributions are in a same  
2 direction as a first difference vector comprising the second color vector minus the first color  
3 vector.
- 1           5.       The method of claim 3, wherein the first color vector comprises a  
2 representative color of the segment, the second color vector comprises a color contribution of  
3 the at least one adjacent segment, and the third color vector comprises representative colors  
4 of the pixels.
- 1           6.       The method of claim 4, wherein the blur contributions comprise  
2 projections of a second difference vector onto the first difference vector, and wherein the  
3 second difference vector comprises the third color vector minus the first color vector.
- 1           7.       The method of claim 4, wherein the blur contributions are proportional  
2 to a blur coefficient.
- 1           8.       The method of claim 7, wherein the blur coefficient comprises a first  
2 dot product between the second and first difference vectors divided by a second dot product  
3 between two first difference vectors.
- 1           9.       The method of claim 7, wherein the blur coefficients are calculated by  
2 an image processing apparatus.
- 1           10.      The method of claim 7, wherein the blur coefficients are calculated by  
2 a video processing apparatus.

- 1           11.     The method of claim 7, wherein the blur coefficients are provided as  
2 segment field data relating to the segment.
- 1           12.     A method of blurring a segment of an image, the method comprising:  
2           selecting the segment;  
3           identifying pixels of interest near a boundary of the segment;  
4           determining the blur contributions for the pixels; and  
5           adding the blur contributions to color vectors of the pixels to add blurring to  
6 the segment.
- 1           13.     The method of claim 12, wherein calculating the blur contributions  
2 comprises:  
3           determining a first color vector relating to the segment;  
4           determining a second color vector relating to at least one adjacent segment in  
5 proximity to the pixels; and  
6           determining a measure of blurring relating to the pixels.
- 1           14.     The method of claim 13, wherein the blur contributions are in a same  
2 direction as a first difference vector comprising the second color vector minus the first color  
3 vector.
- 1           15.     The method of claim 13, wherein the first color vector comprises a  
2 representative color of the segment, and the second color vector comprises a color  
3 contribution of the at least one adjacent segment.
- 1           16.     The method of claim 13, wherein the measure of blurring comprises a  
2 blur coefficient.
- 1           17.     The method of claim 16, wherein the blur coefficients are calculated by  
2 an image processing apparatus.
- 1           18.     The method of claim 16, wherein the blur coefficients are retrieved  
2 from segment field data relating to the segment.
- 1           19.     An apparatus for determining blur contributions of a segment of an  
2 image, the apparatus comprising:  
3           means for selecting the segment;  
4           means for identifying pixels of interest near a boundary of the segment; and  
5           means for determining the blur contributions for the pixels.
- 1           20.     The apparatus of claim 19, further comprising:  
2           means for subtracting the blur contributions from color vectors of the pixels to  
3 remove blurring from the segment.

- 1                    21.    The apparatus of claim 19, further comprising:
- 2                    means for adding the blur contributions to color vectors of the pixels to add
- 3                    blurring to the segment.